STREET LTG LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	DESCRIPTION	MOUNTING	MODEL	INPUT VA	VOLTS
STL–1		STREET LIGHT	POLE	Leotek Electronics USA LLC, GCM1 60J MV 30K 3R XX 100	65	120V 1P 2W

FLAG NOTES

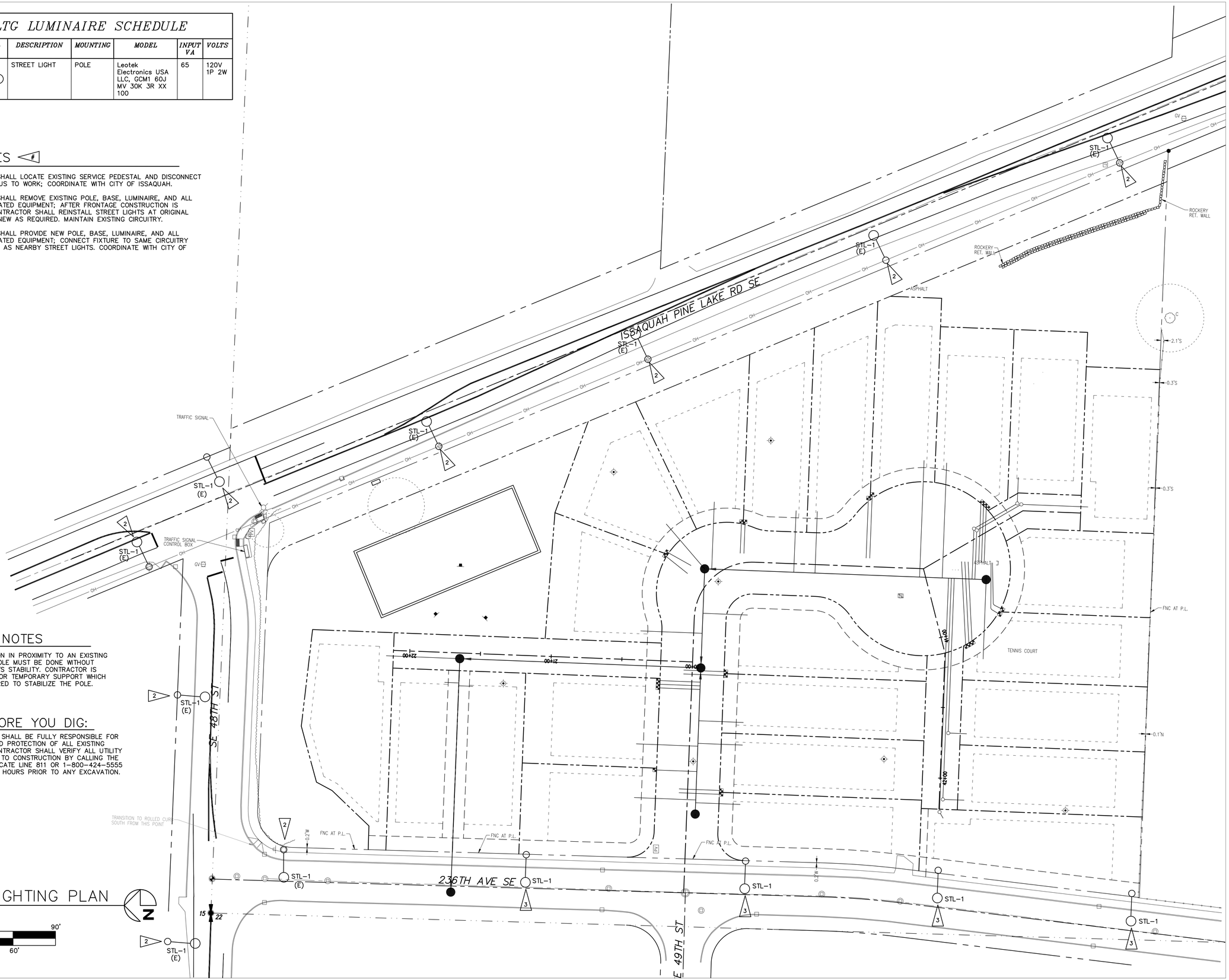
1. CONTRACTOR SHALL LOCATE EXISTING SERVICE PEDESTAL AND DISCONNECT POWER PREVIOUS TO WORK; COORDINATE WITH CITY OF ISSAQUAH.
2. CONTRACTOR SHALL REMOVE EXISTING POLE, BASE, LUMINAIRE, AND ALL OTHER ASSOCIATED EQUIPMENT; AFTER FRONTAGE CONSTRUCTION IS COMPLETE, CONTRACTOR SHALL REINSTALL STREET LIGHTS AT ORIGINAL LOCATION OR NEW AS REQUIRED. MAINTAIN EXISTING CIRCUITRY.
3. CONTRACTOR SHALL PROVIDE NEW POLE, BASE, LUMINAIRE, AND ALL OTHER ASSOCIATED EQUIPMENT; CONNECT FIXTURE TO SAME CIRCUITRY AND PEDESTAL AS NEARBY STREET LIGHTS. COORDINATE WITH CITY OF ISSAQUAH..

GENERAL NOTES

1. ANY EXCAVATION IN PROXIMITY TO AN EXISTING STREETLIGHT POLE MUST BE DONE WITHOUT UNDERMINING ITS STABILITY. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SUPPORT WHICH MAY BE REQUIRED TO STABILIZE THE POLE.

CALL BEFORE YOU DIG:

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE 811 OR 1–800–424–5555 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.



STREET LIGHTING PLAN

SCALE: 1" = 30'

0' 30' 90'
15' 60'

CONSULTANT

ROBISON ENGINEERING, INC

19401 40TH AVE W. SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343
CONTACT: SHANE MCCLURE
REI # 1047-003

CLIENT/OWNER

PROJECT NAME

PARKLAND HEIGHTS PRELIMINARY PLAT

PROJECT ADDRESS

S.E. 48th STREET & ISSAQUAH PINE LAKE RD. S.E.
ISSAQUAH, WA 98029

STAMP

MARK D. ROBISON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
10-17-22

REVISIONS

REV	ISSUED FOR:	DATE

PROJECT TEAM

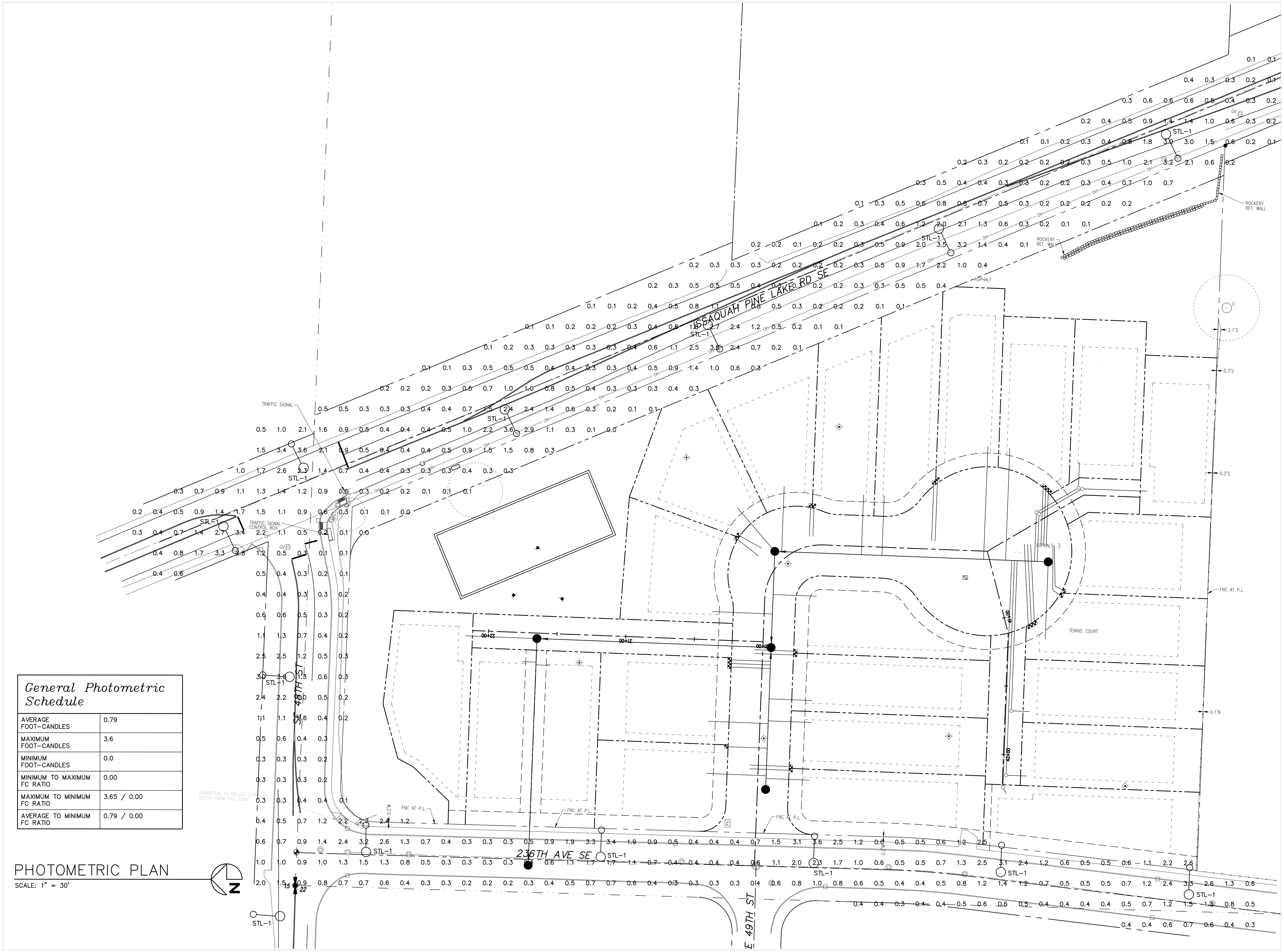
REVIEWED BY: M.D.R.
DESIGNED BY: S.M.

SHEET NAME

STREET LIGHTING

SHEET NUMBER

E1.01



General Photometric Schedule

AVERAGE FOOT-CANDLES	0.79
MAXIMUM FOOT-CANDLES	3.6
MINIMUM FOOT-CANDLES	0.0
MINIMUM TO MAXIMUM FC RATIO	0.00
MAXIMUM TO MINIMUM FC RATIO	3.65 / 0.00
AVERAGE TO MINIMUM FC RATIO	0.79 / 0.00

PHOTOMETRIC PLAN

SCALE: 1" = 30'

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10-17-22

REVISIONS

REV	ISSUED FOR:	DATE

PROJECT TEAM

REVIEWED BY: M.D.R.

DESIGNED BY: S.M.

SHEET NAME

STREET LIGHTING PHOTOMETRIC CALCULATIONS

SHEET NUMBER

E1.02

J. *Street Illumination*

The following provides the City's general specifications for the types of street and public area lighting fixtures in the right-of-way as a guide to developers, planners, and City personnel in planning for, or installing those lighting fixtures within the right-of-way of the City of Issaquah. For lighting standards outside of right-of-way see IMC 18.07.107 "Outdoor lighting". Definitions are as follows:

"Luminaires" – The lighting head which provides the actual illumination.

"Standard" – The pole or post which supports the luminaire.

"Puget Sound Energy" – Puget Sound Energy Company.

"Public Area" –. Those portions of a development intended for routine use and/or passage by the general public or customers or visitors to the development. Public areas include, but are not limited to, parking lots, driveways, walkways, and plazas..

"Street" – A public or private thoroughfare affording a principal means of access to abutting property.

It is the goal of the City of Issaquah to insure that a multiplicity of street lighting fixtures does not detract from the desired harmonious aesthetic values of the City; and to insure that the lighting fixtures used are both cost effective and maintainable.

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In that the City finds municipal ownership and operation of street lighting is more costly to the City and its residents than is ownership and operation by a private public service utility, it is the City's policy to allow Puget Sound Energy to construct, operate and maintain all lighting fixtures on public and private streets; and to construct, operate, and maintain all electric appurtenances required by such street lighting.

The City recognizes that one type of lighting fixture is not satisfactory for each section of the community and therefore has subdivided the City into three categories for lighting purposes. Those categories are residential, commercial and municipal. Exceptions to these standards will occur within the City's Comprehensive Plan. There are areas of the City that would require decorative lighting (i.e. Olde Town). Within each area the Standard Specifications are:

1. Plats and other Non-Single Family Development

Street lighting is required for all public streets in plats and other commercial, multifamily, and developments and redevelopments larger than a single family residence and along right of ways which front the development. The street lighting design shall be reviewed and approved by the Engineer prior to final plat approval.

Street lighting is required on private streets within a plat and along right of ways which front the plat or as determined by the City Engineer. The City does not install or maintain private street lighting systems.

2. Short Plats

A street lighting system shall be installed on public streets in or abutting a short plat development. The system shall be installed to Standards for arterial or local streets.

3. Existing Residential Areas

If a resident or group of residents desire the installation of a new street light they must apply to the City Engineer.

Cost of the installation of a new street light will be at the expense of the applicant per a completed cost matrix by the Public Works Engineering Department determining the percent to be paid by the applicant.

4. Existing Commercial Areas

If a business or businesses desire the installation of a new street light they must apply to the City Engineer.

Cost of the installation of a new street light will be at the expense of the applicant.

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5. Design Guidance

The Developer is responsible for design, installation or relocation of new or existing lighting. Commercial development shall replace existing lighting systems on power poles with a new lighting system serviced by underground power if the system will not conflict with essential distribution lines.

All street light installations; including wiring, conduit and power connections, shall be located underground. Exception: existing residential areas with existing above ground utilities may have street lighting installed on the existing power poles.

Record drawings are required for all new or relocated underground street lighting systems prior to receiving a final occupancy permit. See As-built requirements.

6. Design Standards

Street lighting system designs are to be prepared by a licensed engineer experienced with lighting design. Calculations should include; luminaire spacing, illumination level, uniformity ratio, line losses, power source and other necessary details for the electrical and physical installation of the street lighting system. The lighting engineer shall design the illumination system per the Washington State Department of Transportation (WSDOT) Design Manual Chapter 1040.

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7. Illumination Levels

Light Level and Uniformity Ratio Chart

Highway Design Classification	Minimum Average Maintained Horizontal Light Level[1] – Pedestrian/Area Classification: High (footcandles)	Medium (footcandles)	Low (footcandles)	Maximum Uniformity Ratio[3]	Maximum Veiling Luminance[4]
Principal Arterials					
Main Line	1.6	1.2	0.6	3:1	0.3:1
Intersections	1.6	1.2	0.9	3:1	0.3:1
Minor Arterials					
Main Line	1.2	0.9	0.6	4:1	0.3:1
Intersections	1.2	1.0	0.9	4:1	0.3:1
Collectors					
Main Line	1.1	0.8	0.6	4:1	0.3:1
Intersections	1.1	1.0	0.9	4:1	0.3:1
Local Streets	0.3	0.3	0.3	None; 300 foot max. spacing	
Other Illuminated Features					
Transit Stops[2]	2.0	2.0	2.0	NA	0.3:1
Midblock Ped Xing	2.0	2.0	2.0	3:1	0.3:1

Notes:

a) Light level and uniformity ratio apply only when installation of more than one light standard is justified.

b) For single light standard installations, provide the light level at the location where the bus stops for riders (see Design Manual 1040.06(6))

c) Minimum Average Maintained Light Level/Minimum Light Level = Maximum Uniformity Ratio

d) Maximum Veiling Luminance/Average Luminance = Maximum Veiling Luminance Ratio

e) Lighting designed to minimize spill over to private property or sensitive environmental areas

f) The illumination levels for public and private streets shall be designed in accordance with these standards and will not be considered a conflict with the land use code.

8. Illumination Equipment

The type of illumination equipment varies by location and use. Mounting height and wattage will be dependent on an illumination analysis that is consistent with the illumination levels mentioned in the previous section,

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however, the mounting height will not exceed thirty-five feet (35') and fourteen feet (14') in the Olde Town area. In other special land use district areas that are created, this criteria may vary.

Fixture type and pole type are dependent on location and classification of area:

Lighting Area	Fixture	Pole Type
Local Roads	Cobra head, flat glass lens	Steel
Principal and Minor arterial	Shoebox head and flat glass lens	Steel
Transit Stops and Mid-Block Crossings	Cobra head, flat glass lens	Steel
Multi-use paths and trails	Shoebox head and flat glass lens	Fiberglass, Steel

In general, High Pressure Sodium (HPS) shall be used for all applications. Use of alternative light emitting devices that reduce electricity consumption while maintaining adequate light levels as defined in the previous section is encouraged.

9. Exceptions

a) It is further recognized that in certain locations and within areas which are being planned and designed as a cohesive unit, that landscaping and architectural styles may require street lighting fixtures to be of a unique and individual style. In such cases, lighting fixtures other than those specified above may be used, given: the desired lighting fixtures are completely and accurately described and depicted in the project's development plan, that projected annual maintenance and operation costs are presented, replacement costs, by component, are listed and the lighting fixtures are reviewed and approved as a separate item within the City's overall project review and approval process.

b) In the Olde Town Area, lighting fixtures shall comply with the IMC 18.19, Olde Town Design Standards. Maximum height of fixture is 14 feet, all lights shall be shielded from the sky and adjacent properties and structures, and use of pedestrian scale lighting and/or bollard lighting shall be used to reinforce the historic nature of Olde Town Issaquah.

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10. Illumination Electrical Guidance

All street lights shall be on two hundred forty volt (240v), single phase systems. The exact location of the power source should be indicated together with the remaining capacity of that circuit. System continuity and extension should be considered. (Provision For 110V plug on the Light Standards shall be considered)

Contractor cabinets equipped with electrical meters, circuit breakers and other required components are required on commercial installations of five (5) or more streetlights.

All street lighting wiring, conduit, service connections shall be located underground except in residential areas where existing power distribution poles exist.

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STAMP

REVISIONS

REV	ISSUED FOR:	DATE

PROJECT TEAM

REVIEWED BY: M.D.R.

DESIGNED BY: S.M.

SHEET NAME

STREET LIGHTING DETAILS

SHEET NUMBER

E1.03